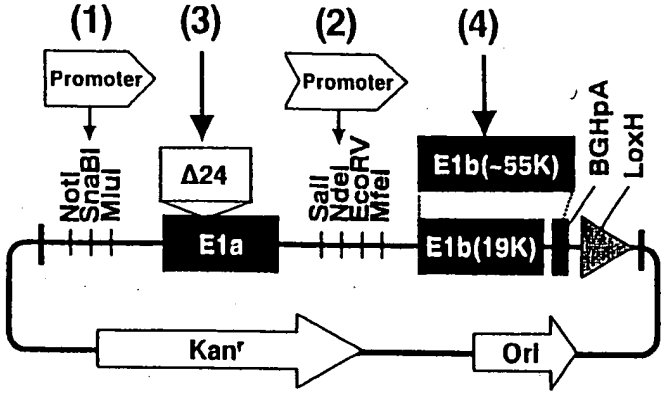
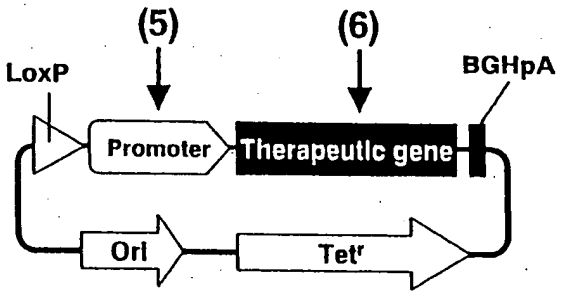
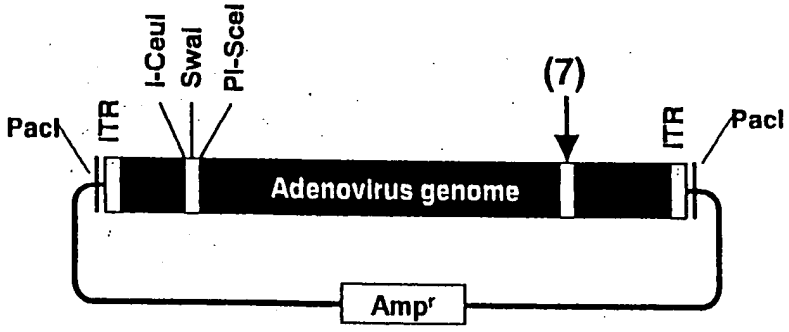


A. Vector plasmid having a proliferation-regulating unit



B. Vector plasmid having a therapeutic gene-expressing unit



C. Adenoviral vector plasmid

Fig. 1

Primer name	DNA sequence
S-E1A	5'-TCAGTCGCATGCGCGGCCGCTACGTAACGCGTTACCCGGTGAGTTCCTCAAGAGGC-3' Stuffer | SphI | NotI | SnaBI | MluI | Ad5 474～497
AS-E1A	5'-GGACGTCCTAGGGTCGACGCCCCATTTAACACGCCATGCAAG-3' Stuffer | AvrII | SalI | Ad5 1635～1658 (AS)
S-E1B19K	5'-TCAGTCCCTAGGGTCGACCATATGGATATCCAATTGCGTGGGCTAATCTTGGTTACATCT-3' Stuffer | AvrII | SalI | NdeI | EcoRV | MfeI | Ad5 1684～1707
AS-E1B19K	5'-GGACGTGGATCCGCGTCTCAGTTCTGGATACAGTTC-3' Stuffer | BamHI | Ad5 2262～2285 (AS)
S-BGHpA	5'-TCAGTCGGATCCGCATGCATCTAGAGCTCGCTGATC-3' Stuffer | BamHI | pRc/RSV 693～716
AS-BGHpA	5'-GGACGTGAATTCATAACTTCGTATAATGTATGCTATATGAGGTAATTCAGAAGCCATAGAGCCCACCGCA-3' Stuffer | EcoRI | LoxH (AS) | pRc/RSV 933～956 (AS)

<PCR condition>

Thermal denaturation 94°C, 30 seconds

Annealing 57°C, 30 seconds

Elongation reaction 74°C, 60 seconds

30 cycles

Fig. 2

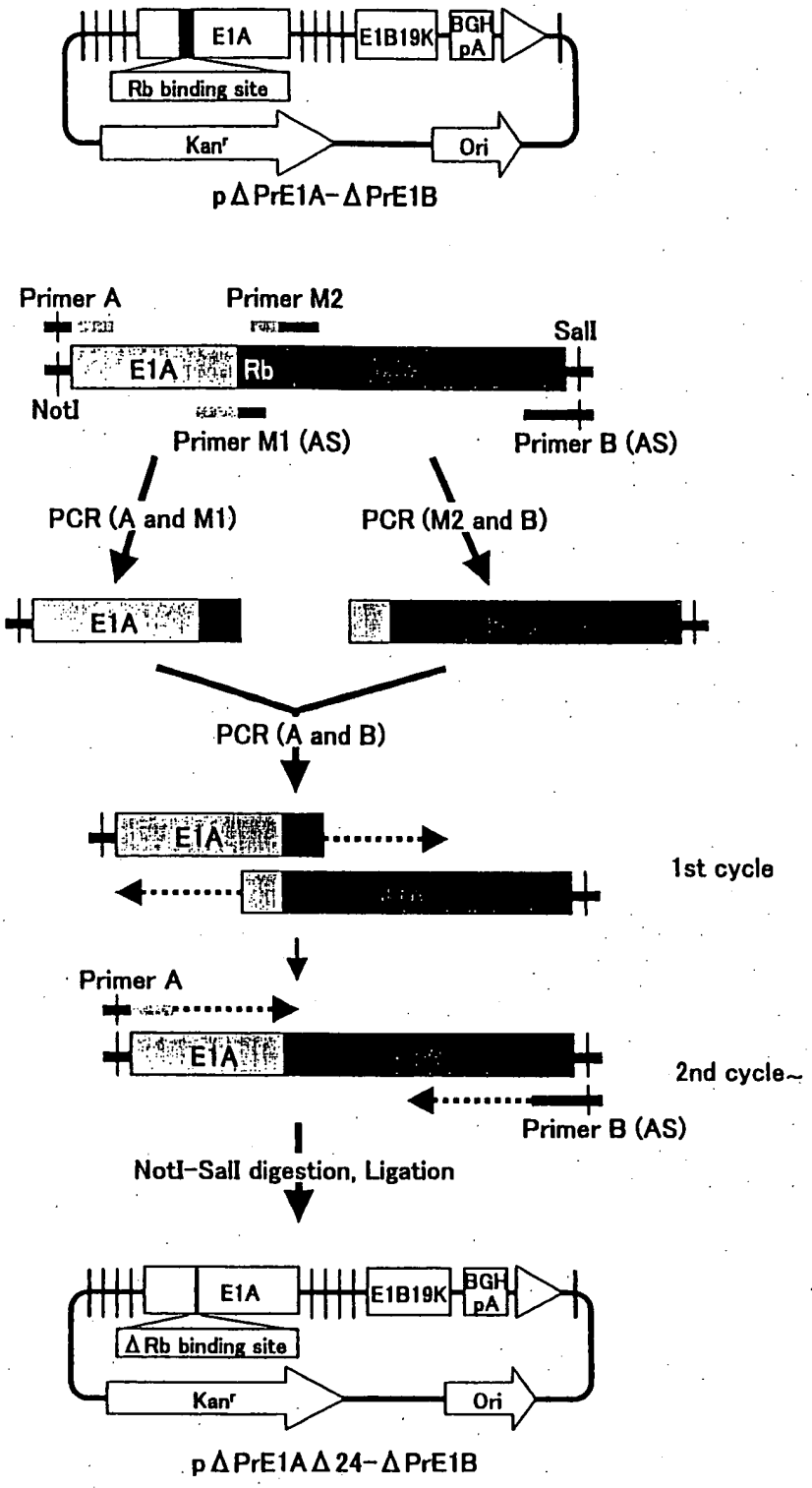


Fig. 3

Primer name	DNA sequence
S-Δ24	5'-TTGTACCGGAGGTGATCGATCCACCCAGT-3' Ad5 903～922 | Ad5 947～956
AS-Δ24	5'-TCCTCGTCGTCACTGGGTGGATCGATCACC-3' Ad5 966～947 (AS) | Ad5 922～913 (AS)
S-E1B-2015	5' ATAAATGGAGCGAAGAAACC 3' Ad5 2015～2034
AS-E1B-4073	5' GGACGTGAATTCATAACTTCGTATAATGTATGCTATATGAGGTAATCTTGATCCAAATCCAAACAGAGTC 3' Stuffer | EcoRI | LoxH (AS) | Ad5 4050～4073 (AS)

<PCR condition>

Thermal denaturation 94°C, 30 seconds

Annealing 57°C, 30 seconds

Elongation reaction 74°C, 60 seconds

30 cycles

Fig. 4

Primer name	DNA sequence
S-CMVp	5'-TCAGTCGTCGACCGTTGACATTGATTATTGAC-3' Stuffer | SalI | pRc/CMV 231～250
AS-CMVp	5'-GGACGTCAATTGGCTTGGGTCTCCCTATAGTG-3' Stuffer | MfeI | pRc/CMV 874～893 (AS)
S-CEAp	5'-TCAGTCGCGGCCGCATCATCCCACCTTCCCAGAG-3' Stuffer | NotI | CEAp (-424～-405)
AS-CEAp	5'-GGACGTACGCGTCCAGGTCTCTGCTGTCTGC-3' Stuffer | MluI | CEAp (AS, -19～+1)
S-OCp	5'-CTGCAGGGTCAGGAGGAGAA-3' OCp (-834～-815)
AS-OCp	5'-GCGCTGGGCTGCTGCTCAGG-3' OCp (+12～+31)

<PCR condition>

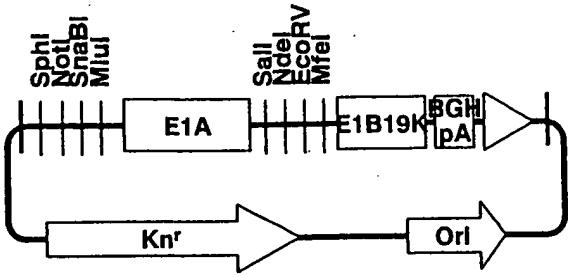
Thermal denaturation 94°C, 30 seconds

Annealing 57°C, 30 seconds

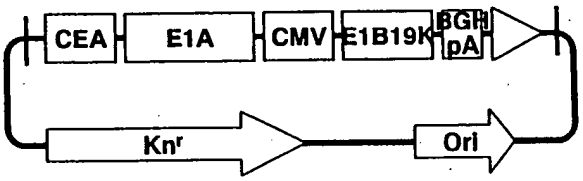
Elongation reaction 74°C, 60 seconds

30 cycles

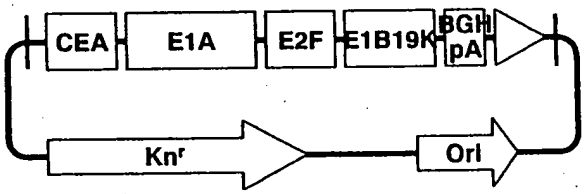
Fig. 5



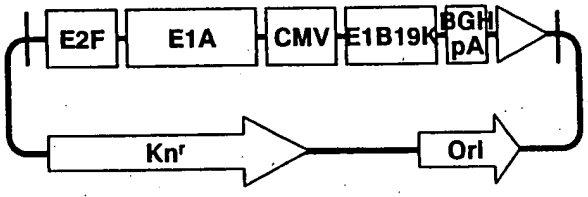
pΔPr-E1A-ΔPr-19K



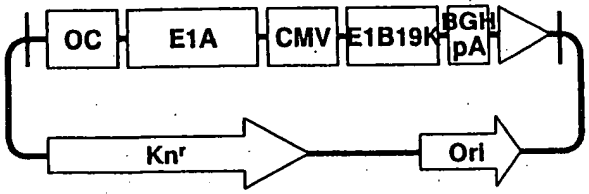
pCEA-E1A-CMV-19K



pCEA-E1A-E2F-19K

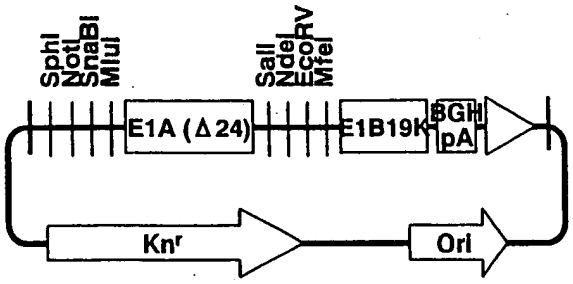


pE2F-E1A-CMV-19K

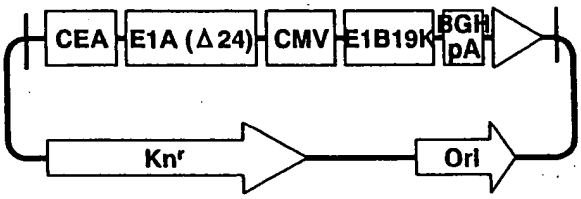


pOC-E1A-CMV-19K

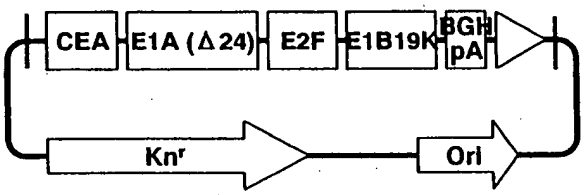
Fig. 6



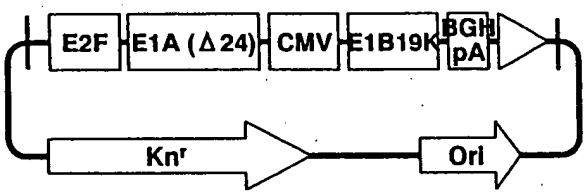
pΔPr-E1AΔ24-ΔPr-19K



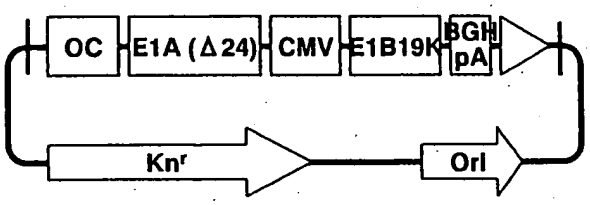
pCEA-E1AΔ24-CMV-19K



pCEA-E1AΔ24-E2F-19K



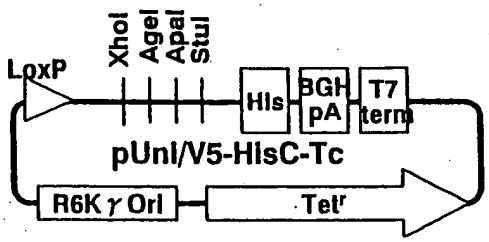
pE2F-E1AΔ24-CMV-19K



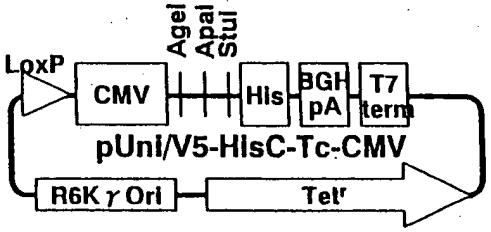
pOC-E1AΔ24-CMV-19K

Fig. 7

Vector plasmid having a therapeutic gene-expressing unit



First therapeutic gene-expressing vector plasmid
(having an integrated constitutive high-expression promoter)



First therapeutic gene-expressing vector plasmid

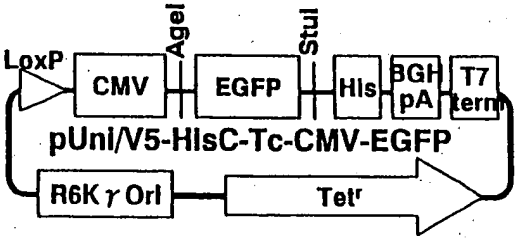


Fig. 8

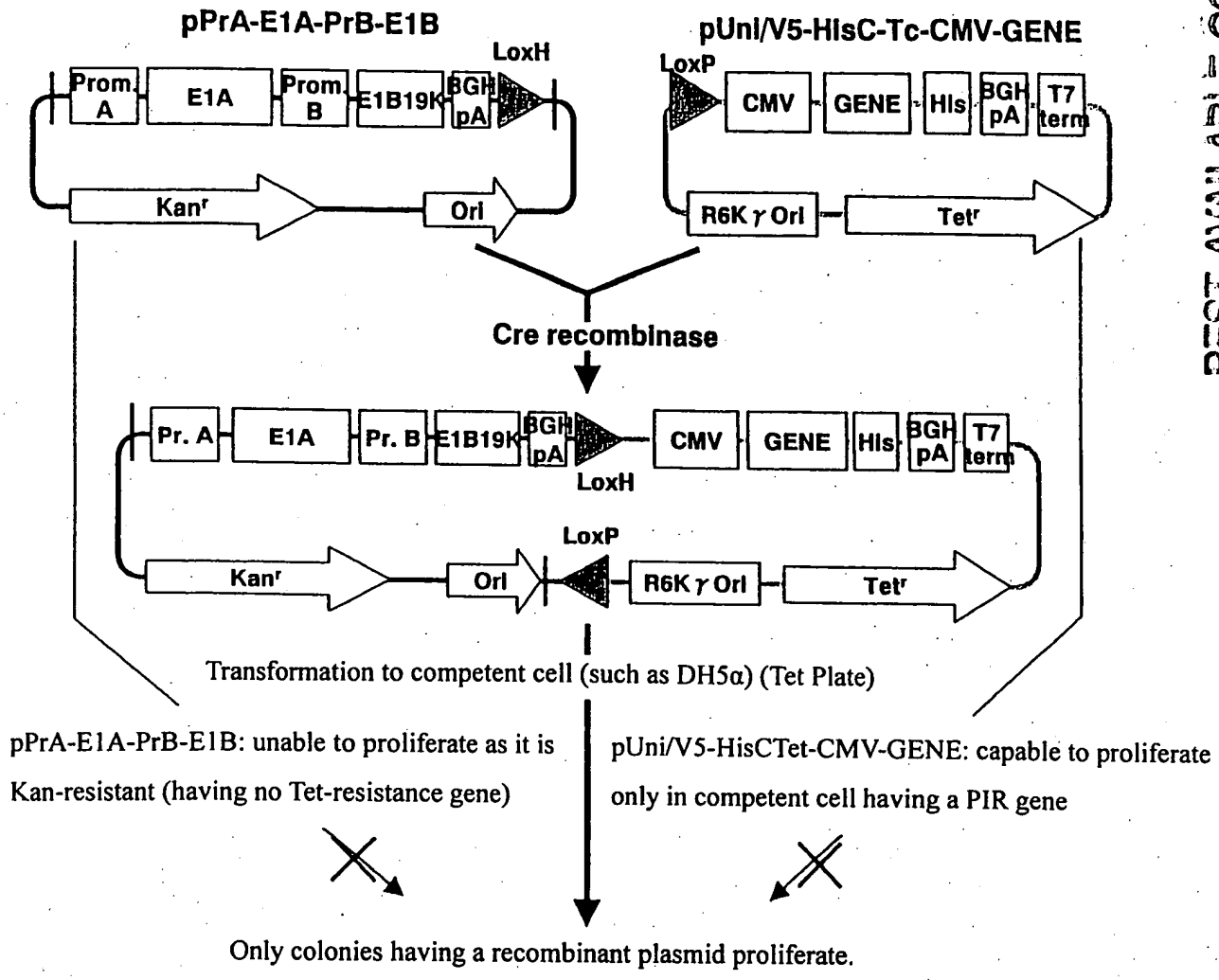


Fig. 9